

WHAT IS CLAIMED IS:

1. A fluid discharge pump for discharging a fluid stored inside a fluid-storing portion, comprising:

a nozzle head through which a fluid is discharged, said nozzle head being provided with a first pushing portion and a second pushing portion;

an intermediate portion slidably connected to the nozzle head, said intermediate portion comprising an outflow valve mechanism which opens when being pressed downward, wherein when the nozzle head is pressed downward, the first pushing portion presses the outflow mechanism to open;

an inflow valve mechanism which opens when being pressed upward; and

bellows connecting the outflow valve mechanism and the inflow valve mechanism, wherein when the nozzle head is further pressed after the outflow valve mechanism is open, the second pushing portion pushes the intermediate portion downward to deform the bellows from a stretched position to a folded-up position, and wherein when the nozzle head is released, the bellows is restored from the folded-up position to the stretched position whereby the inflow valve mechanism is open and a fluid flows into the bellows.

2. The fluid discharge pump according to Claim 1, wherein the outflow valve mechanism comprises (i) a valve seat having an opening portion through which the fluid flows, and (ii) a valve body comprising a ring-shaped supporting portion, a valve portion for closing and opening the opening portion, and multiple coupling portions connecting said supporting portion and said valve portion, said supporting portion being disposed upstream of the valve seat, wherein the first pushing portion pushes the valve portion downward to move the valve portion away from the valve seat when the nozzle head is pressed.

3. The fluid discharge pump according to Claim 1, wherein the inflow valve mechanism comprises (i) a valve seat having an opening portion through which the fluid flows, and (ii) a valve body comprising a ring-shaped supporting portion, a valve portion for closing and opening the opening portion, and multiple coupling portions connecting said supporting portion and said valve portion, said supporting portion being disposed downstream of the valve seat.

4. The fluid discharge pump according to Claim 1, wherein said bellows is restored from the folded-up position to the stretched position by its own elastic force.

5. The fluid discharge pump according to Claim 1, further comprising a spring which restores the bellows from the folded-up position to the stretched position.

6. The fluid discharge pump according to Claim 1, wherein the first pushing portion, the outflow valve mechanism, the bellows, and the inflow valve mechanism are disposed co-axially.

7. The fluid discharge pump according to Claim 1, wherein the first pushing portion is hollow and constitutes a part of a fluid passage.

8. The fluid discharge pump according to Claim 7, wherein the first pushing portion comprises an annular flange extending to an inner wall of the intermediate portion, wherein a fluid downstream of the outflow valve mechanism is in contact with the annular flange, the inner wall of the intermediate portion, and an interior of the first pushing portion.

9. The fluid discharge pump according to Claim 1, wherein the first pushing portion is a stick-like member.

10. The fluid discharge pump according to Claim 9, further comprising second bellows connected to the outflow valve mechanism and an inner wall of the nozzle head, wherein a fluid downstream of the outflow valve mechanism is in contact with the second bellows and the inner wall of the nozzle head.

11. The fluid discharge pump according to Claim 2, wherein the valve seat is integrally formed with the intermediate portion.

12. The fluid discharge pump according to Claim 1, wherein the inflow valve mechanism is connected to a housing adapted to be connected to a liquid dispensing port of the fluid-storing portion.

13. The fluid discharge pump according to Claim 12, wherein the valve seat is integrally formed with the housing.

14. The fluid discharge pump according to Claim 1, wherein the intermediate portion is slidable along an inner wall of the second pushing portion.

15. The fluid discharge pump according to Claim 1, wherein the outflow valve mechanism, the outflow valve mechanism, and the bellows are made of a resin.

16. A fluid-storing container comprising a container having a fluid dispensing port, and the fluid discharge pump of Claim 1 attached to the fluid dispensing port.

17. The fluid-storing container according to Claim 16, further comprising a piston which is disposed inside the container at its bottom and moves up as the fluid inside is discharged.